

# Impact of the Mining Rights Allocation Process on the Sustainable Development of the Copper Mining Industry in Zambia

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## Abstract

The limited character of minerals must be recognized in the development of mining activities, as well as the necessity to form bonds that allow mining advantages to be enjoyed long after natural resources have been consumed. Because mining activities have the potential to affect a wide variety of environmental entities and are of interest to a large range of stakeholder groups, the sector has a lot of room to improve its sustainability. According to studies, the economic advantages of copper mining operations in Zambia are not allocated equally among stakeholders in the process of granting mining rights to potential investors. This paper examines how the existing system of granting mining rights in Zambia impacts the distribution of economic gains among copper mining project stakeholders.

## Keywords

Zambia, Mining Rights, Stakeholder, Sustainable Development, Economic Benefits, Environment

## 1. Introduction

Since 1969, legislation has outlined the procedure for obtaining mineral exploitation licenses (Ndulo, 1986). As a result, it might be claimed that the economic gains derived from copper mining activities have not been distributed fairly. Zambia's mining ventures ensure an equal distribution of economic rewards, all stakeholders must agree on what they anticipate from a mining operation before it begins (Masinja & Simukanga, 2014).

The purpose of the research is to investigate if the current system for assigning

mineral rights for resource exploitation leads to a fair distribution of economic benefits among stakeholders. The article investigates whether giving mining rights through discussions between stakeholders prior to the start of a mining project may result in an equal distribution of the project's economic advantages to all stakeholders.

The article will determine if there are other factors that may have impinged on the fairness. The evaluation focused on the Konkola copper mine, which is located in Zambia's Copperbelt Province. All stakeholders were included in the study. Mining firms (investors), government agencies, local governments, and communities were among those involved (the landowners and those who would benefit from mining ventures).

The data gathering process in this study was split into two phases. The first section consisted of a review of published scholarly publications, with a focus on sustainable development in the extractive sector, contract negotiation, and a review of legislation and other documents pertaining to mineral exploitation methods. The paper concludes by presenting a case study of Konkola Copper Mine in Copperbelt Province. In-depth interviews and focus group discussions were conducted utilizing purposive sampling in this section, which focused on the process of granting mineral exploitation licenses.

## 2. The Notion of Mining Industry Sustainable Development

Economic, social, and environmental objectives are all taken into account in sustainable development (Blewitt, 2008). "Meeting the requirements of the current generation without jeopardizing future generations' ability to satisfy their own needs" is how it's described (Hilson & Murck, 2000; Kogel, Trivedi, & Herpfer, 2014; Swilling & Annecke, 2012).

Mining has the potential to significantly effect the environment and other human activities in the project region, as well as in certain situations outside (Carbon, 1997; Cragg, 1998). In order for the mining sector to remain sustainable, it must save and reinvest a quantity equivalent to what has been taken and sold, among other things (Kumah, 2006). It also necessitates an equitable distribution of the mining sector's economic advantages among all industry partners. Mineral resources must be turned into various types of capital, as well as sustainable means of living for those affected by such operations, in order for wealth to be sustained (AFDB, 2007). Because minerals are scarce, it is necessary to establish links so that the advantages of mining activities may be enjoyed long after the natural resources have been consumed (Fessehaie, Judith, & Mike, 2013).

Zambia is a resource-rich country with the world's greatest copper deposits, accounting for 6% of global reserves (World Bank, 2011). Zambia's mineral potential is ranked 26th out of 79 nations in the Frazer Institute assessment of mining and exploration firms (World Bank, 2011). Zambia is thought to have 2.8 billion tonnes of ore with a copper content ranging from 0.6% to 4% (World

Bank, 2011). Copper consumption is expected to rise at a rate of 3% per year until 2020, when it will reach 25 million tonnes (World Bank, 2011). Zambia has a strong chance of growing its copper mining sector due to its mineral resource potential and the high demand for copper on the worldwide market (World Bank, 2011). For almost a century, Zambia has been extracting and exporting copper. Copper accounts for 9.5 percent of Zambia's GDP and 75 percent of the country's overall export revenues (AFDB, 2007).

Despite the fact that mineral resources have the potential to provide economic riches (Azapagic, 2004), mining does not provide an outright advantage to a mineral resource rich country (Manley, 2013). Mines, like farms, industries, and highways, are part of Zambia's capital riches. For any of the advantages to be realized, there must be excellent management and distribution of both the mineral riches and earnings (Carbon, 1997; World Bank, 2011). The mining industry's most difficult duty is to demonstrate that it contributes to the current generation's welfare and well-being while not compromising future generations' quality of life (Azapagic, 2004).

It has been pointed out that the economic advantages of mining ventures in Zambia are not spread equally among the stakeholders. This is mostly due to the way mineral extraction rights are distributed (Masinja & Simukanga, 2014). The authors suggest that mining contract talks are frequently beset by complexities and reservations on the part of both investors and governments. It has been noticed that the investor would typically conduct due diligence in areas such as: 1) knowledge of the host government and political landscape, 2) targeted resource base, 3) better grasp of the product, 4) market processes and tactics, 5) familiarity with the host country's operating industries code and any previous mining contracts.

The host government, on the other hand, would be unprepared, having little or no knowledge about the investor, and may not completely comprehend the resource or have prepared their requests and expectations ahead of time. The regulatory framework guideline is usually the sole weapon available to host governments, who do not have to consider any potential short- or long-term effects of any negotiated conclusion on the local or national economy. To get the most out of a mining project, the host country and investor must establish its values, priorities, and goals from the start (Mensa, 2016). The agreement's parameters should maximize the potential for both the host country's government and the investor to profit the most. The Mines and Minerals Development Act No.11 of 2015, as amended by the Mines and Minerals Development (General) Regulations, 2016, Statutory Instrument No.7 of 2016, establishes the current process for granting mineral exploitation rights.

The notion of sustainable development envisions human activities, including mining, being carried out in such a way that the activity and its results contribute to mankind's long-term survival (Blewitt, 2008; Dorian & Humphreys, 1994; Epps, 1997). The Brundtland Commission defined sustainable development as "filling current demands without jeopardizing future generations' ability to ful-

fill their own” (Hilson & Murck, 2000; Swilling & Annecke, 2012).

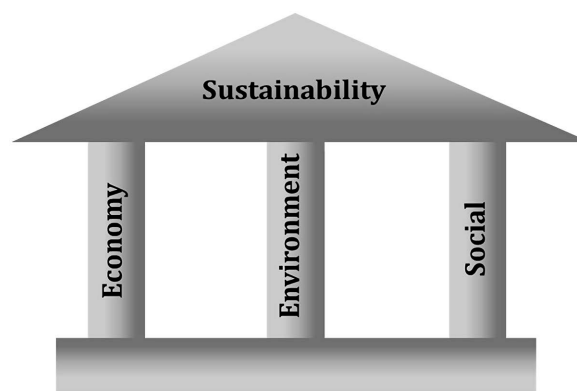
“The balancing of economic, social, and environmental objectives, integrating them via mutually supportive policies, practices, and trade-offs”, according to another definition of sustainable development (Kumah, 2006; Pezzoli, 1997; Rocha & Bristow, 1997; Sanchez, 1998). The focus here is on integrating the three pillars of sustainability, namely, the environment, the economy, and the social, into development policymaking. **Figure 1** illustrates one popular representation of the three pillars.

If one or more of the pillars fails, the system as a whole will collapse. As a result, the sector must develop plans that acknowledge and embrace its societal, regional, and global responsibilities (Angelakoglou & Gaidajis, 2013). Human activities not only deplete natural capital by relying on ecosystem services to maintain their level of living, but they also regularly degrade environmental services through productive activities (Blewitt, 2008). Mineral and energy resources that cannot be replaced or regenerated are used in these processes (Blewitt, 2008).

Depletion of non-renewable resources, landscape alteration, chronic soil erosion, heavy metals overloading, acid mine drainage (Hilson & Murck, 2000) and thus affecting the quality of water for drinking and other uses; agriculture and displacement of local comrades are all examples of mining’s negative impacts on the environment (Hilson & Murck, 2000; World Bank, 2011). **Table 1** summarizes the economic, environmental, and social difficulties associated with mining.

Even in the mining industry, there is no blueprint for attaining long-term sustainability. Different schools of thought have proposed various interpretations and approaches to mine development (Hilson & Murck, 2000).

Explaining how mining may contribute “to the happiness and well-being of the current generation without jeopardizing the quality of future generations” is a problem (Azapagic, 2004). Mining activities must have an economic output in order to be able to repair the environmental harm they have created (Richards, 1996; Tilton, 1996; Sinding, 1999). When dealing with non-renewable resources like mineral resources, sustainable development is crucial (*Services Integrated*



**Figure 1.** Sustainability pillars.

**Table 1.** A summary of the mining and minerals sector's significant sustainability challenges (Azapagic, 2004).

Economic challenges	Environmental challenges	Social challenges
Costs, revenue, and profit	Loss of biodiversity	Bribery and corruption
Distribution of revenues and wealth	Emissions to air	Creation of employment
Capital expenditures	Energy consumption	Training and development of employees
Mine closure, community involvement, and pollution prevention	Climate change and other environmental issues	Nondiscrimination and equality of opportunity
Value to stockholders	Land usage, management, and redevelopment	Occupational safety and health
Extra value	Nuisance	Human rights and ethical business practices
	Toxicology of the product	Labor/management relationship
	Utilization and availability of resources	Relationships with community members
	Effluents, leachates, and water usage	Participation of stakeholders
		Distribution of wealth

Mining, 2013). An assessment of an economic activity's contribution to GDP considers not just the income made, but also the connections that the activity creates. GDP is primarily driven by forward and backward connections.

Mineral resources should be linked to economic growth in a good way (Hernandez, 2006). Proposals for mining resource extraction, income collection, and management, according to the Africa Mining Vision 2030 (AMV), are insufficient. It is simply one of the factors to think about while developing a policy. It is recommended that development corridors, industrialization clusters, and infrastructure sharing be established. The mining industry would be linked to local, national, and regional economies under this idea.

The African mining conundrum, it is said, is due to historical architectural flaws. This stems mostly from the long-standing practice of direct resource export to industrialized nations at the price of African development, particularly the policy of isolating mining operations from the rest of the local economy. The common misconception is that mining benefits African countries since it is the primary source of state revenue through taxation.

Natural resource riches are often seen to be a stimulus for development. The proceeds from the extractive industry are intended to be invested in education, infrastructure, and other areas where the country may gain and enhance its economy (Olanya, 2015; Venables, 2016). Natural resource availability is often assumed to be a benefit for quick expansion; examples include the United Kingdom, Australia, Canada, Japan, the United States, and Sweden (Kumah, 2006; AFDB, 2007; Pezzoli, 1997; Rocha & Bristow, 1997). Market connections should allow natural resources to create capital for investment and demand.

Mineral reserves may be sustainable if an amount equivalent to what was mined and sold each year was saved and reinvested in the sector (Kumah, 2006). Some good effects may be seen from mining operations, despite the fact that there is a lot of dispute in trying to relate mining to sustainable development, largely be-

cause mineral resources are finite and non-renewable, and therefore there is a significant risk of future generations losing access to them (Joya, 2015; McMahon & Moreira, 2014).

However, it has been recognized that natural resource richness does not automatically guarantee economic progress; in fact, recent literature shows that it may have a negative impact on growth and development (Vintro, Sanmiquel, & Freijo, 2014). Since the 1980s, most economists have been skeptical about whether abundant natural resources lead to increased economic productivity (Carbon, 1997; AFDB, 2007; Pezzoli, 1997). Lack of money to engage in mining projects, inefficient institutions, poor resource management (Kumah, 2006), and inadequate governance are some of the causes for the inability to extract economic growth from natural resources (Swilling, 2012). Mineral endowment is regarded as an implicit form of capital with the potential to promote socio-economic growth in areas where wealth is distributed and managed fairly, and where mining revenues are invested in infrastructure, facilities, and social services, particularly for communities near mining areas (Mikesell, 1994; Miller, 1997; Labonne, 1999; Warhurst & Noronha, 2000).

The resource curse is one of several hypotheses that have emerged as a result of this pessimism (Olanya, 2015). When natural resources take center stage in the economy, the resource curse is a hypothesis that political systems in natural resource-rich countries are the least likely to achieve progress (Collier & Hoeffler, 2012). Another idea, the Dutch sickness, is closely connected to the resource curse theory and claims that mining economies' reliance on a single resource for development, mostly through money from its export, is a cause of economic stagnation. The argument put out is that resource-rich countries' reliance on a single dominating product causes them to overlook other economic areas (Venables, 2016; Gilberthorpe & Papyrakis, 2015; Collier, 2007).

Failure to put in place the necessary growth promotion policies and strong institutions to oversee the development process has been linked to other causes for mineral-dependent nations' failure to achieve economic leaps (Cragg, 1998; Angelakoglou & Gaidajis, 2013; Tilton, 1996).

According to this viewpoint, the finding of minerals has been viewed as a contradiction in regard to poverty (Collier, 2007). The endowment of mineral resources and economic development has a negative connection (Gilberthorpe & Papyrakis, 2015). This viewpoint is supported by a number of explanations. Rent seeking, as proposed by Jeffrey Sachs (Collier, 2007), which leads to a balance of payments problem, is one of the issues mentioned (Pereira, 2010). The conclusion is that the problem stems from poor governance (Epps, 1997; Sinding, 1999). Mineral riches, on the other hand, have been proposed as a means of creating possibilities and strengthening social bonds. Some study emphasizes how entangled the political process is in local resource exploitation, highlighting inequities, social dislocation, and conflict that can lead to a resource curse (Gilberthorpe & Papyrakis, 2015).

According to Collier (Collier, 2007), the discovery of a mineral resource should typically serve as a stimulant for development, which it does on occasion, but there are certain exceptions. He goes on to say that countries that find mineral resources end up destitute, and that the most they can hope for is middle-income status (Collier, 2007). Specific key items linked to export markets are thought to help assist growth. Backward and forward links, as well as outside and inside linkages, are used to explain this expansion (Fessehaie, Judith, & Morris, 2013). Outside linkages stand for state participation in the income generated from exports; forward linkages have the capacity for economic development; inside linkages occur when the state has moved away from the status quo to a state of entrepreneurship; and outside linkages diffuse the concentration of economic power and wealth by introducing new players on the scene (Ramdoo, 2013). Only policies, institutions, state construction, and political inclusion can bring about economic variations (Olanya, 2015). Growth must be harnessed in order to break the cycle of stagnation with only periodic booms and collapses (Pereira, 2010). It is difficult to manage variable income since governments spend disproportionately when there is a boom. This type of behavior, it is believed, prevents governments from making public investments and makes it harder for them to modify their spending patterns during a recession (Collier, 2007).

### 3. Link between the Resource Curse and Dutch Disease

Gelb invented the phrase “resource curse” (Kumah, 2006; Dorian & Humphreys, 1994). It explains the adverse link between resource richness and economic growth (Sebastian & Raveh, 2016). Sachs and Warner (Richards, 1996; Joya, 2015) were the first to suggest the resource curse theory, which was later elaborated upon by Collier (Swilling, 2012). The “Dutch disease”, which is linked to the resource curse, is a condition. The scenario emerges when mineral resource extraction is adequately handled to the point that currency rates rise because of mineral exports. The harmful component of this situation arises when there is an excessive dependence on this single source while other areas of the economy are disregarded, causing macroeconomic instability (Venables, 2016). The name comes from the discovery of enormous gas resources in the Netherlands in the 1960s, which harmed Dutch industry (Corden, 1984; Poncela, Senra, & Sierra, 2017). The abrupt growth in the country’s wealth as a result of exceptional capital inflows lowered other industries’ competitiveness (Poncela, Senra, & Sierra, 2017).

The curse of natural resources and the Dutch sickness are economic, political, and institutional issues (Pereira, 2017). The Dutch illness has long been seen as an impediment to industrialization (Pereira, 2017). The natural resource boom, on the other hand, has been claimed to be an accelerator for growth and development, while the resource curse may be prevented by applying the appropriate knowledge, institutions, and policies (AFDB, 2007).



Despite the arguments mentioned above, the underperformance of mineral economies is due to excessive spending, spending on the wrong things, and under-investment (Epps, 1997; Sinding, 1999). To capitalize on this, various recommendations have been made to allow the private sector to develop long-term jobs and economic growth, and resource management should be focused on encouraging private sector investment (Venables, 2016). The distribution stage of mineral exploitation, in which resources are dispersed among investors, governments, and others, is considered a key stage in mineral resource development. This is in relation to the investments that will result from the income generated, which will make certain investment recommendations, including investments that will eventually assist private sector investments (Venables, 2016).

The limitations of the various studies are that all of the recommendations, such as emphasizing linkages (Ramdoo, 2013); providing checks and balances in governance to avoid corruption; governments prioritizing expenditure and investment (Collier, 2007); decentralization of fiscal economies where local governments in remote areas were inefficient in handling fiscal policies and the prevalence of corruption (Hernandez, 2006); and providing checks and balances in governance to avoid. A more realistic approach, such as the proposed model, is necessary, in which all of the preceding proposals may be included in, including the interpretation of all the links in the form of a formula into which every mining project income and expenditure should enter.

The resource curse, according to Bruckner (Bruckner, 2012), is a symptom of civilizations plagued by corruption and lacking adequate checks and balances on political choices. In resource-rich countries, politicians are at the heart of economic progress (Bruckner, 2012). Several actions and procedures are frequently used to encourage corruption while exporting resources. The numerous phases and regulations give opportunities for bribes to be offered to government officials as an inducement to speed up the process for anxious exporters (Bruckner, 2012). This diminishes revenue that is desperately needed.

Different experts have proposed various remedies to the lack of economic progress in resource-rich countries, in addition to recognizing the causes. Another issue related with the lack of economic growth in mineral economies is “lopsided trading”, which is also tied to a country’s policies (Services Integrated Mining, 2013). This is the type of trade in which natural resources are exported at a low cost with no added value and then imported as completed goods at a considerably higher cost. To handle this seemingly multi-faceted problem, it is advised that a multi-faceted approach be used, including legal, institutional, and administrative involvement of all parties, as well as obtaining co-operation from all stakeholders (Sachs & Warner, 2001).

Mineral resource development success stories in nations like Canada and Australia may be ascribed to changes in corporate and financial organization, education, research and knowledge creation, human capital accumulation, and infrastructure growth, among other factors. They cite solid governmental institutions that upheld the rule of law as well as a favorable economic climate as examples



(Sachs & Warner, 2001). Natural resources are required for countries to achieve more financial development, and as a result, policies must be implemented to manage the resources and income generated for future development (AFDB, 2007). Policy option proposals (Sachs & Warner, 2001):

1) Developing a profitable, integrated, and diverse mining business across the value chain, as well as sustaining mineral riches without jeopardizing environmental, social, or cultural issues, and establishing a legislative framework that fosters mineral development.

2) Investing temporary resource income to assure long-term prosperity, as well as determining how much should be preserved and how much should be invested in what.

3) Distributing mining profits fairly, balancing and managing opposing local and national concerns and interests, and determining what shape the allocation should take to achieve pro-poor growth are all challenges.

4) Ensure solid governance and a stable macroeconomic strategy that reduces rent seeking and corruption, solves issues like Dutch disease and externalities like volatile commodity prices, and increases public interest in wealth conservation.

High corporate, social, and environmental standards should be engaged via policy, legal framework, a good fiscal regime, and job development in order to prudently use natural resources, it has also been advocated. Strategies are proposed for judicious exploitation of mineral resources (Sachs & Warner, 2001):

1) Developing a profitable, integrated, and diverse mining business across the value chain, as well as sustaining mineral riches without jeopardizing environmental, social, or cultural issues, and establishing a legislative framework that fosters mineral development.

2) Promoting a measured, well-informed spending, saving, and investing (in other assets) strategy that prioritizes the production of human, social, and physical capital, as well as the translation of mineral resources into profitable financial assets.

3) Promoting the stabilization of mineral resource revenue and the reduction of fiscal imbalances through increased fiscal discipline, a certain level of fiscal conservation, and increased capacity for forecasting and managing mineral revenues with the goal of reducing uncertainty about their magnitude, mitigating market externalities, and minimizing adverse macro-economic effects associated with commodity price fluctuations.

4) Increasing the ability of governance systems, organizations, and institutions, notably in the ministries of finance and planning and local government.

5) To enhance community lives and optimize other socioeconomic and development results, forging tri-sector partnerships and forming change coalitions involving governmental, private (mine firms), and stakeholder groups.

6) Educating and empowering communities in mining zones so that they can make better decisions and participate more fully in their own development.

7) Unbundling the sector and promoting a strategy that encourages local procurement and outsourcing of goods and services, value addition and local min-

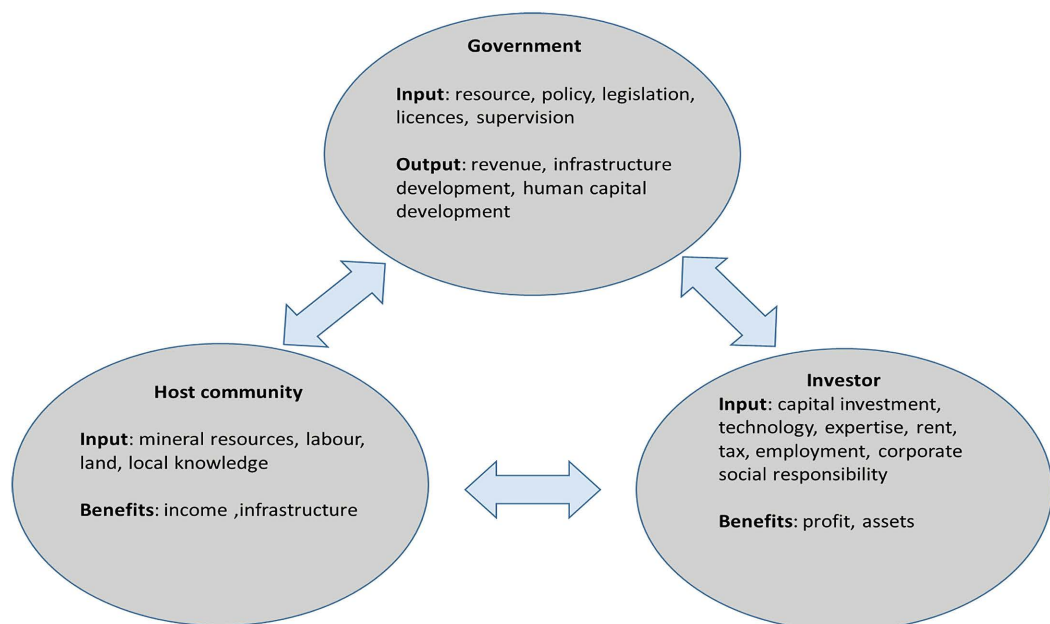
eral beneficiation, as well as optimizing business multipliers and strengthening links between mining and other sectors of the economy, including at the local community level.

8) Encourage mining corporations to act more socially and corporately responsibly in order to increase mining's societal significance.

According to Sachs and Warner (Sachs & Warner, 2001), the aforementioned tactics are broad, and as a result, they must be used contextually and in a specific country. Furthermore, for the policies to be effective, they must be integrated into the overall poverty reduction and growth strategy, as well as other development goals. The author recommends a partnership between the government, local communities, and other stakeholders, as opposed to profit-driven mining, which is fostered by legislative, legal, and regulatory frameworks.

#### 4. Model of a Conceptual Contract for Negotiating Mineral Resources

Masinja and Simukanga (Masinja & Simukanga, 2014) suggested a paradigm for fair distribution of economic advantages among stakeholders from any mining operation, however it involves interaction between the stakeholders. The model is applicable to the whole extractive sector, however it is limited to the copper mining industry in Zambia for the purposes of this research. In a negotiation, the model defines three parties: the government, the investor, and the host community. All of these have diverse and distinct interests that must be considered in order to have a long-term operation (Masinja & Simukanga, 2014; World Bank, 2011). In terms of the interests of the many stakeholders, Figure 2 best summarizes the operational tripartite structure.



**Figure 2.** Three-way connection between Government, Host Community and Investors in mining industries operations (adapted from Masinja, 2016).

Stakeholders all contribute to the sector's functioning and, as a result, demand a return on their investment. Because of the integration of investment into the economy and industrialization, the advantages emerging for each of the stakeholders are extremely synergistic, as the government collects taxes, provides jobs, and business prospects. The investor, on the other hand, benefits from having unrestricted access to resources as well as earnings from the investment. Finally, jobs, business prospects, and corporate social responsibility all help the community.

Total revenue gained from the exploitation of natural resources must equal total spending, and this should be planned by the government at the time of contract negotiations (Masinja & Simukanga, 2014). The suggested model's main goals are to help enhance mining sector governance by clearly outlining duties and roles for important stakeholders in every particular project. Second, to offer a means for tracking revenue transfer among key stakeholders in order to keep each one accountable. Third, provide a mathematical framework for describing the important issues in extractive industries' contract negotiations so that the best possible conclusion may be achieved.

The conceptual model envisions the government as the owner of the resources and choosing to license them out for exploitation; the investor seeking a permit to exploit the natural resources at his or her own expense; and the host community, who are the owners of the resource and live within or around the area to be exploited; and each of these stakeholders contributing to the project's operations and ultimately making a profit (Masinja & Simukanga, 2014). The model's proponents accept the issues that have been linked to natural resources failing to contribute to Africa's economic growth. They point out that the major justification presented is one of governance. This is due to a lack of growth-promoting policies and, second, robust institutions to oversee development. The following are some of the other factors claimed for the lack of natural resource richness to lead to economic development (Masinja & Simukanga, 2014; Hernandez, 2006):

- 1) The Dutch illness, which is defined as a state in which real exchange rates and wages rise as a result of mineral resource development, pushing out other sectors' exports and imports.
- 2) Elite rent-seeking.
- 3) Price volatility and its disproportionate impact on government spending.

The income from natural resource extraction exports has been noted to be variable, as the price on the worldwide market changes regularly. Because revenues are uncertain, good fiscal policies must be implemented to ensure that they are invested in human capital development and long-term production capacity growth. This has been identified as a significant difficulty, particularly in terms of converting profits from natural resource extraction into productive capital that can generate and sustain long-term growth. Transparency and accountability are also considered as critical in utilizing natural resource riches for economic success. Resource income has led to rent-seeking and widespread corruption due to a lack of sufficient checks. This is thought to have a negative impact on the qual-

ity of institutions and resource management (Masinja & Simukanga, 2014).

Transparency may be found on two levels: first, when granting exploitation rights, and second, while regulating and spending earnings from natural resource exploitation. It is also emphasized that, contrary to logical economic assumptions, policymakers and development practitioners in a number of resource-rich nations have been wrestling with the gap between the exploitation of natural resources and sustained advances in socioeconomic development (Masinja & Simukanga, 2014).

“The support of the building of robust public institutions that would assure openness and accountability in revenue management”, according to the proposed extractive sector contract negotiation model. The concept is said to have the ability to assist and shield the government negotiator from being enticed into making concessions that are harmful to the economy by a more experienced private sector opponent (Masinja & Simukanga, 2014). It is also claimed that the model may be utilized by both the government and the general people to monitor and track revenue movement. It would also assist in reducing the amount of dishonesty among individuals in command of public resources, whether in government or the commercial sector (Masinja & Simukanga, 2014). There hasn't been any empirical testing of the model. As a result, the study's goal was not to investigate the model. Instead, the study looked at whether Zambia's existing process of granting mineral exploitation rights has an impact on the equal distribution of economic gains among mining sector players.

## 5. Contract Negotiation and Zambian Mineral Exploitation Rights

When both sides have equal negotiating strength, they reach a mutual agreement. Parties have the right to convey their expectations from a project in this scenario. Every project must provide the stakeholders with what they regard to be fair and helpful. According to Edwards et al. (Edwards, Toohey, & Ijsselmuiden, 2014), it is critical for a party to establish clear objectives before engaging in any contract negotiations, and the points to consider before entering into a contract negotiation are the following:

- 1) The value of resources.
- 2) A clear mandate from all stakeholders for pursuing the project.
- 3) Current capacity gaps.
- 4) Expectations and what the real need is for the partnership.
- 5) Internal policies, government policies, principles, values and priorities, and an evaluation of the impact on all stakeholders.

Contract negotiations do not begin with the contract agreement; they begin with the formulation and creation of policy objectives (Mensa, 2016) that consider long-term sustainability (Ramdoo, 2013). The worth of the resource in terms of income, including foreign exchange profits that may be gained from it, as well

as its role in environmental stewardship, is what the host government has to grasp first and foremost (Mensa, 2016; Ramdoo, 2013). The government can then set goals centered on downstream opportunities, a strong industrial foundation, infrastructure development, education, training, high-quality employment, and business opportunities for local businesses, for example (Mensa, 2016; Ramdoo, 2013).

Mineral rights were acquired from African Chiefs as concessions before to independence (Ndulo, 1986). A mining legislation was approved in Northern Rhodesia, now Zambia, with the arrival of the British South African Company (BSAC) in 1912. The mining regulatory system was handed to the BSAC under the Act. Anyone may get a prospecting license under this law by paying a small fee to the BSAC (Ndulo, 1986). The BSAC sold its mining rights to the Zambian government on the eve of Zambia's independence in exchange for a payment of £200,000. Both the Zambian and British governments were expected to pay the money (Ndulo, 1986).

The two firms that had obtained mineral rights under the BSAC, Anglo-American and Roan Select Trust, were remained in control of those rights at the time of independence. In 1969, the mining sector in Zambia was nationalized by the government. This was in accordance with the Mines and Minerals Act of 1969, which allowed the government to terminate the Anglo-American and Roan Select Trust Firms' underdeveloped concessions and special grants, as well as release the regions where the companies were not conducting mining activities. The Act also gave the government the authority to negotiate for a 51 percent share of existing miners' stock. The government was able to purchase the majority of the stock with dividends over a twelve-year period through negotiations (Ndulo, 1986).

Individuals and mining firms might be granted licenses under the Act. The Act established the conditions of the license, their interpretation, the definition of rights and their extent, and the reciprocal duties between the license holder and the government. To far, this has been the situation in Zambia. The abolished Mines and Minerals Act of 2008, which allowed the government to enter into mining agreements with large-scale mining license holders, is one exception. The agreements included provisions that had been worked out between the government and the investors. The Development Agreements were canceled when the Act was revoked in 2008. The Mines and Mineral Development Act, No. 11 of 2015, the Mineral Resource Policy (2013), and the Mines and Minerals (General) Regulations 2016 control mineral resource utilization.

Most countries, such as Zambia, rely on independently issued mining laws to control investments, allowing investors to determine whether or not to participate based on such rules (Mensa, 2016). There are no precise sector-specific frameworks in certain underdeveloped nations (Mensa, 2016).

The current Mines and Minerals Development Act, No. 11 of 2015, lays out the steps that anybody interested in mining should take. It is Zambia's main

guideline for mineral exploitation, including the purchase of mining rights, as specified in Part III of the Act.

The Mineral Resources Development Policy (MRDP), which governs the government's direction in the mining industry, is the guiding policy for amending the Mines and Minerals Development Act. Following a review of the 1995 policy, the new policy was released in July of 2013. The review's stated goal is to provide long-term advantages for Zambians (Kambole, 2019). Despite the advancements in the mining industry, fostered by the MRDP 1995, which have resulted in higher output, the policy recognises that there are still a number of obstacles. The following challenges are those that the study noticed:

- 1) Inefficient mining rights administration.
- 2) Low mining sector income.
- 3) Poor infrastructure development in host communities.
- 4) Poor connections resulting in a lack of value addition to the products.

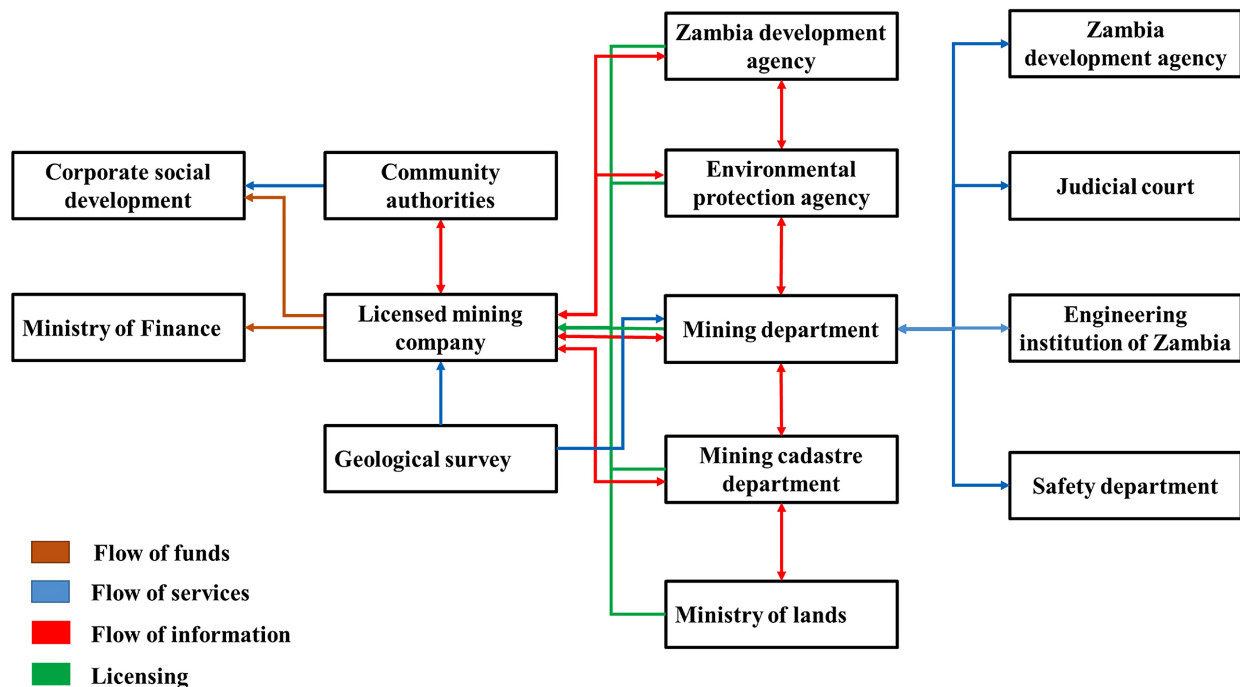
The policy projects an increase in the GDP contribution from the current 9% to 20% by 2030 (Kambole, 2019). Among the guiding principles in the current policy is the government's commitment to ensure sustainable exploitation of mineral resources for the maximum benefit of the Zambian people.

Part III of the Act regulates the granting of mineral exploitation rights. Division 3 specifically deals with mining licenses: 1) under Section 30, a holder of an exploration licence may apply for a mining licence to mine minerals within the exploration area not later than six months before the exploration licence expires, 2) an application for a mining license shall be submitted to the Director of Mining Cadastre in the appropriate manner and form after payment of the required sum.

The considerations that must be considered while reviewing an application are outlined in Section 31. In addition, Section 32(1) states, "subject to the terms of this Act, the Committee shall, within ninety days of receipt of an application under section thirty, issue the applicant a mining licence, in the specified form, if the application fulfills the criteria of this Act".

The Mining Licensing Committee, created under section 6 of the Act, is referred to in the preceding paragraphs as the Committee. In that part, the Committee's functions are outlined as follows: 1) considering mining and non-mining rights applications and granting, renewing, or refusing to grant or renew mining and non-mining rights; 2) terminating, suspending, or canceling mining and non-mining rights; 3) amending the terms and conditions of mining and non-mining rights; 4) advising the Minister on matters relating to its functions under this Act.

Section 6 subsection (2) specifies the composition of the Committee. Its members include the Directors of Mines, Geological Survey, Mines Safety, and Mining Cadastre, as well as a representation from the Ministry of Environment, Land, Finance, and Labour, as well as the Attorney General, the Zambia Development Agency, and the Engineering Institution of Zambia. **Figure 3** shows a flowchart depicting how operations in mining field in Zambia are structured



**Figure 3.** Flowchart of mining operations in Zambia (based on many different interviewed stakeholders).

according to the regulations that govern the industry, which include mining licenses.

From the foregoing discussion, it is evident that no literature was found on assessing the impact of the current method of grant of mineral exploitation rights on the equitable distribution of economic benefits among stakeholders from the mining industry.

## 6. Case Study: Nkokola Copper Mine

The research was conducted out at Zambia's Copperbelt province's Konkola copper mine. The Nkokola deposit lies between two large faults, the Lubengele to the North and the Luansobe to the South. The primary hydrogeological boundaries of the deposit are formed by these faults. The Nkokola mine is the most northerly of the KCM's Zambian Copperbelt mines, located in Chililabombwe, roughly 26 kilometers north of Chingola.

The study looked into whether the current method of granting mining rights has an impact on the equitable distribution of economic benefits among project stakeholders, and whether granting mining rights based on stakeholder negotiations prior to the start of a project could result in an equitable distribution of economic benefits to every stakeholder.

In this study, a combination of detailed documentary reviews and qualitative exploratory research methodologies were applied. The respondents were carefully picked. Six focus group discussions with ten participants each were undertaken as shown in **Table 2**, and key informants were interviewed using interview rules.



**Table 2.** A comprehensive breakdown of all interviews.

Actor/Institution	Number of interviews	Number of participants	Interview dates
Farmers and landowners	10	10	12.02.2022
Minerals commission district office	10	10	18.02.2022
Zambia development agency	10	10	21.02.2022
Environment protection agency	10	10	27.02.2022
Zambia chamber of mines	10	10	10.03.2022
Ministry of mines and minerals	10	10	16.03.2022
Total	60	60	

Inductively analyzing in-depth interviews was done using content analysis, a qualitative data analytical technique. Content analysis is a valuable approach for exploratory and descriptive investigations, especially when the participants are also stakeholders in a situation that requires change or action (Berg & Lune, 2001).

According to the results of the interviews, the current mechanism for permitting mineral extraction does not allow for a fair distribution of economic benefits. The study also discovered that prior to granting mining permits, discussions with all stakeholders might result in equitable economic benefit distribution. Furthermore, the study discovered that no other characteristics had an impact on the equitable distribution of economic benefits.

## 7. Conclusion

The purpose of this study was to see if the technique used to issue mining rights had an impact on the equal distribution of economic rewards among mining project stakeholders. The major stakeholders in assessing the process of awarding mineral rights and the fair distribution of benefits economics from the study are the government, the investor, and the host community.

The paper first attempted to clarify exactly how sustainability can be applied in the corporate mining context. Given that mining industry operations have the potential to impact a wide range of environmental and socioeconomic entities by committing to improving environmental performance and addressing stakeholder needs. Then the paper clearly explains the model of conceptual contract for negotiating mineral resources. It gave a concise and precise overview of Zambian Contract Negotiations and Mineral Exploitation Rights and concluded that no literature was found on assessing the impact of the current method of allocating mining rights on the fair distribution of economic benefits among stakeholders in the mining industry. Finally, a case study of Nkokola copper mines has shown that the existing system for authorizing mineral exploitation does not allow for a fair distribution of economic advantages.

Two recommendations were made:

1) Before a mining license is awarded, the mechanism for granting mineral exploitation rights should be altered to engage all parties in a dialogue.

2) A plan for how the proceeds from mining operations will be spent should be in place ahead of time, taking into account the needs of all parties concerned.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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